

PATENT

Atty Docket: 1403-16 PCT (OPP 061224)

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)

14. (New) A method for receiving an Automatic Repeat reQuest (ARQ) block, comprising:
if an ARQ block is received, determining if a block sequence number of the ARQ block is in a range of a receipt window;

if the block sequence number of the ARQ block is in the range of the receipt window, determining if the ARQ block is a duplicate of a previously received ARQ block;

if the ARQ block is not a duplicate and the block sequence number of the ARQ block is not less than a highest block sequence number of received ARQ blocks, updating the highest block sequence number of received blocks; and

if the ARQ block is not a duplicate and the block sequence number of the ARQ block is equal to a start block sequence number of the receipt window, updating the start block sequence number of the receipt window.

15. (New) The method of Claim 14, further comprising:

if the block sequence number of the ARQ block is not equal to the start block sequence number of the receipt window, setting a first timer; and

if the block sequence number of the ARQ block is equal to the start block sequence number of the receipt window, setting a second timer.

16. (New) The method of Claim 15, further comprising:

setting the first timer if the ARQ block is a duplicate.

17. (New) The method of Claim 16, wherein the first timer is defined as a time interval for waiting after a successful reception of a block that does not result in an advancement of the start block sequence number of the receipt window.

18. (New) The method of Claim 17, further comprising:

if the block sequence number of the ARQ block is not in the range of the receipt window, discarding the ARQ block.

19. (New) The method of Claim 18, further comprising:

if the block sequence number of the ARQ block is in the range of the receipt window, adding the block sequence number of the ARQ block to a list to be acknowledged.

20. (New) A computer-readable medium that stores instructions executable by at least one processor to perform a method comprising:

if an ARQ block is received, determining if a block sequence number of the ARQ block is in a range of a receipt window;

if the block sequence number of the ARQ block is in the range of the receipt window, determining if the ARQ block is a duplicate of a previously received ARQ block;

if the ARQ block is not a duplicate and the block sequence number of the ARQ block is not less than a highest block sequence number of received blocks, updating the highest block sequence number of received blocks; and

if the ARQ block is not a duplicate and the block sequence number of the ARQ block is equal to a start block sequence number of the receipt window, updating the start block sequence number of the receipt window.

21. (New) The computer-readable medium of Claim 20, wherein the method further comprises:

if the block sequence number of the ARQ block is not equal to the start block sequence number of the receipt window, setting a first timer; and

if the block sequence number of the ARQ block is equal to the start block sequence number of the receipt window, setting a second timer.

22. (New) The computer-readable medium of Claim 21, wherein the method further comprises:

if the ARQ block is a duplicate, setting the first timer.

23. (New) The computer-readable medium of Claim 22, wherein the first timer is defined as a time interval for waiting after successful reception of a block that does not result in advancement of the start block sequence number of the receipt window.

24. (New) The computer-readable medium of Claim 23, wherein the method further comprises:

if the block sequence number of the ARQ block is not in the range of the receipt window, discarding the ARQ block.

25. (New) The computer-readable medium of Claim 24, wherein the method further comprises:

if the block sequence number of the ARQ block is in the range of the receipt window, adding the block sequence number of the ARQ block to a list to be acknowledged.

26. (New) A method for a transmitter to retransmit a packet to a receiver, comprising:

if a transmitter does not receive an acknowledgment message for a packet transmitted to the receiver, setting a retransmission timeout;

if the retransmission timeout expires, retransmitting the packet;

if a maximum management time expires, transmitting a discard message for the packet to the receiver and transiting to a discarded state; and

if the transmitter receives, in the discarded state, the acknowledgment message for the packet or an acknowledgment message for the discard message, discarding the packet from a transmitting buffer.

27. (New) The method of Claim 26, further comprising:

setting a maximum number of retransmissions;

if the transmitter receives a non-acknowledgment message for the packet from the receiver, retransmitting the packet; and

if a number of retransmissions of the packet exceeds the maximum number of retransmissions, transiting to the discarded state.

28. (New) A method for a transmitter to retransmit an Automatic Repeat reQuest (ARQ) block to a receiver, comprising:

if the transmitter transmits the ARQ block to the receiver in a not-sent state of the ARQ block, transiting a state of the ARQ block to an outstanding state;

if the transmitter does not receive an acknowledgment message for the ARQ block for a timeout in the outstanding state, or if the transmitter receives a non-acknowledgment message for the ARQ block in the outstanding state, transiting the state of the ARQ block to a retransmission-waiting state;

if the transmitter retransmits the ARQ block to the receiver in the retransmission-waiting state, transiting the state of the ARQ block to the outstanding state;

if a lifetime of the ARQ block expires in the outstanding state, transiting the state of the ARQ block to a discarded state; and

if the transmitter receives, in the discarded state, an acknowledgment message for the ARQ block or an acknowledgment message for a discard message for the ARQ block, transiting the state of the ARQ block to a done state.

29. (New) The method of Claim 28, wherein transiting the state of the ARQ block to the done state comprises:

if the transmitter receives, in the discarded state, the acknowledgment message for the ARQ block or the acknowledgment message for the discard message for the ARQ block, discarding the ARQ block.

30. (New) The method of Claim 29, further comprising:

if the lifetime of the ARQ block expires in the retransmission-waiting state, transiting the state of the ARQ block to the discarded state.

31. (New) The method of Claim 30, further comprising:

if the transmitter receives an acknowledgment message for the ARQ block in the outstanding state, transiting the state of the ARQ block to the done state; and

if the transmitter receives an acknowledgment message for the ARQ block in the retransmission-waiting state, transiting the state of the ARQ block to the done state.

32. (New) The method of Claim 28, further comprising:

if a number of retransmissions of the ARQ block exceeds a predetermined number of retransmissions, transiting the state of the ARQ block to the discarded state.

33. (New) A method for a transmitter to retransmit an automatic repeat request (ARQ) block to a receiver, comprising:

if the transmitter transmits the ARQ block to the receiver in a not-sent state of the ARQ block, transiting a state of the ARQ block to an outstanding state;

if the transmitter does not receive an acknowledgment message for the ARQ block for a timeout in the outstanding state, transiting the state of the ARQ block to a retry-timeout state;

if the transmitter receives a non-acknowledgment message for the ARQ block in the outstanding state, transiting the state of the ARQ block to a non-acknowledged state;

if the transmitter receives a non-acknowledgment message for the ARQ block in the retry-timeout state, transiting the state of the ARQ block to the non-acknowledged state;

if the transmitter retransmits the ARQ block to the receiver in the retry-timeout state, transiting the state of the ARQ block to the outstanding state;

if the transmitter retransmits the ARQ block to the receiver in the non-acknowledged state, transiting the state of the ARQ block to the outstanding state;

if a lifetime of the ARQ block expires in the outstanding state, transiting the state of the ARQ block to the discarded state; and

if the transmitter receives, in the discarded state, an acknowledgment message for the ARQ block or an acknowledgment message for a discard message for the ARQ block, transiting the state of the ARQ block to a done state.

34. (New) The method of Claim 33, further comprising:

if a lifetime of the ARQ block expires in the retry-timeout state, to discard the ARQ block, transiting the state of the ARQ block to the discarded state; and

if the lifetime of the ARQ block expires in the non-acknowledged state, to discard the ARQ block, transiting the state of the ARQ block to the discarded state.

35. (New) The method of Claim 34, further comprising:

if the transmitter receives an acknowledgement message for the ARQ block in the retry-timeout state, transiting the state of the ARQ block to the done state;

if the transmitter receives an acknowledgement message for the ARQ block in the outstanding state, transiting the state of the ARQ block to the done state; and

if the transmitter receives an acknowledgement message in the non-acknowledged state, transiting the state of the ARQ block to the done state.

36. (New) The method of Claim 33, further comprising:

if a number of retransmissions of the ARQ block exceeds a predetermined number of retransmissions, transiting the state of the ARQ block to the discarded state.